

# Preface

---

*“Each child, every child, in this Commonwealth must be provided with an equal opportunity to have an adequate education.”*

**Supreme Court Opinion**  
***Rose v. Council for Better Education, Inc.***

---

Central to educating all children is the design and implementation of challenging, stimulating learning experiences. These emanate from a curriculum focused on Kentucky’s learner goals and academic expectations, instructional approaches which actively engage students, and powerful assessments which identify learning growth and provide direction for future instruction.

KRS 158.6451 (4) directed the Kentucky Department of Education to design a curriculum framework which addresses Kentucky’s goals, academic expectations, and assessment strategies and provides “....direction to local districts and schools as they develop their curriculum.” *Transformations: Kentucky’s Curriculum Framework* addresses that challenge. The two volumes offer further explanation of the academic expectations, suggestions on teaching strategies and activities, and multiple resources to assist with the development of curriculum and instructional units.

While the use of this framework is not mandated, it has been designed to provide guidance and assistance in the development of local curriculum. Designing a curriculum which prepares each student to be successful in life becomes a challenge and responsibility for all of Kentucky’s educators, but it is just the first step. The implementation of that curriculum is the critical component in assuring that each child achieves the six learning goals identified in the Kentucky Education Reform Act (KERA).



# Mission

---

*The mission of the Kentucky Department of Education, as the national catalyst for educational transformation, is to ensure for each child an internationally superior education and a love of learning through visionary leadership, vigorous stewardship, and exemplary services in alliance with schools, school districts, and other partners.*

---

# Philosophy

*These beliefs were used as guiding thoughts in the development of the curriculum framework.*

## WE BELIEVE

### **All children can learn at high levels, and they**

- ...possess a curiosity and desire to learn.
- ...respond positively to success and enthusiasm.
- ...develop and learn at different rates.
- ...demonstrate learning in different ways.
- ...learn by being actively involved, by taking risks, and by making connections.

### **Successful schools are for students, and they**

- ...expect a high level of achievement.
- ...provide the time and instruction to achieve student success.
- ...provide connections with home and community experiences.
- ...ensure a safe, positive environment.
- ...create opportunities to explore and grow.

### **Effective instruction facilitates learning, and it**

- ...addresses identified academic expectations.
- ...assures success and risk taking.
- ...employs a variety of effective techniques to address learning diversity.
- ...aligns curriculum, instruction, and assessment.
- ...connects curricular offerings to the life experiences of students.
- ...encourages self-direction and life-long learning.

# Contents

<b>Preface .....</b>	<b>i</b>
<b>Mission and Philosophy .....</b>	<b>ii</b>
<b>Acknowledgments .....</b>	<b>v</b>
<b>Introduction .....</b>	<b>1</b>
<b>Goals/Academic Expectations/Expansions</b>	
<b>Kentucky's Learning Goals and Academic Expectations .....</b>	<b>5</b>
<b>Format Explanation .....</b>	<b>10</b>
<b>Goal 1: Use Basic Communication and Mathematics Skills .....</b>	<b>14</b>
<b>Goal 2: Apply Core Concepts and Principles</b>	
<i>Language Arts .....</i>	<i>39</i>
<i>Science .....</i>	<i>41</i>
<i>Mathematics .....</i>	<i>71</i>
<i>Social Studies .....</i>	<i>105</i>
<i>Arts and Humanities .....</i>	<i>137</i>
<i>Practical Living Studies .....</i>	<i>169</i>
<i>Vocational Studies .....</i>	<i>201</i>
<b>Goal 3: Become Self-Sufficient .....</b>	<b>217</b>
<b>Goal 4: Become Responsible Group Members .....</b>	<b>233</b>
<b>Goal 5: Think and Solve Problems .....</b>	<b>247</b>
<b>Goal 6: Connect and Integrate Knowledge .....</b>	<b>259</b>
<b>References for Reflections .....</b>	<b>266</b>



# Acknowledgments

The following people have given time and energy toward the development of this curriculum framework. Without their contributions, this document could not have been written. Listed are their school assignments at the time of their participation in the framework development.

---

## DIVISION OF CURRICULUM

---

**Dr. Betty Edwards**, Director  
**Jean Cain**, Vocational Education  
**Nijel Clayton**, Social Studies  
**Sue Darnell**, Science  
**Louis DeLuca**, Fine Arts  
**Agnes Durbin**, Vocational Education  
**David Green**, Social Studies  
**Tricia Kerr**, Science  
**Jeri Oberg**, Mathematics  
**Fran Salyers**, Textbooks

**Ed Stepp**, Physical Education and Health  
**Sheila Vice**, Mathematics  
**Kay Vincent**, Language Arts  
**Tom Welch**, Foreign Language

These consultants have since left the  
Division of Curriculum:

**Holly Chilton**, Vocational Education  
**Martha Dempsey**, Fine Arts  
**Rosemarie Gold**, Language Arts  
**Betty Hughes**, Vocational Education  
**Ann Seppenfield**, Language Arts

**Support Staff**  
**Regina Mingua**, Adm. Secretary Sr.  
**Sherrie Dawson**  
**Tina Drury**  
**Bobbie Thompson**  
**Susan Ueltschi**

---

## ADVISORY COMMITTEE

---

**John Allen**, Manager-Personnel  
Toyota Motor Manufacturing, U.S.A., Inc.  
**Dr. David Barnett**, Superintendent  
Fleming County  
**Dr. Ann Evans**, Director of Instruction  
Hancock County  
**Dr. Betty Griffin**, Professor  
Kentucky State University

**Jeannie Heatherly**, Assistant Director  
Adult Education  
Jefferson County  
**Judy Johnson**, Teacher  
Lafayette High School  
Fayette County  
**Dr. Betty Lindsey**, Executive Director  
Kentucky Association of School Executives

**David Reed**, Principal  
Bluegrass Middle School  
Hardin County  
**Rita Scott**, President  
Kentucky PTA  
**Dr. Betty Steffy**, Professor  
University of Kentucky

---

## ARTS AND HUMANITIES COMMITTEE

---

**Louis DeLuca**, Coordinator  
Kentucky Department of Education  
**Karen Adkins**, Teacher  
Millard Elementary  
Pike County  
**Mary Ann Davenport**, Teacher  
St. Joseph School  
Warren County  
**Ann French**, Teacher  
Adairville Elementary  
Logan County

**Pat Goldberg**, Teacher  
Campbellsburg Elementary School  
Henry County  
**Dr. Joanne Guilfoil**, Professor  
Eastern Kentucky University  
**Sharon Hutchinson**, Teacher  
Belmont Elementary  
Christian County  
**Virginia Perkins**, Teacher  
La Center Elementary  
Ballard County

**Dr. Robyn Swanson**, Professor  
Western Kentucky University  
**Tom Welch**, Teacher  
Jessamine County High School  
Jessamine County  
**Carolyn Wilson**, Teacher  
Williamsburg High School  
Williamsburg Independent  
**Sharon Wuorenmaa**, Teacher  
Male High School  
Jefferson County



---

## INTEGRATED CURRICULUM COMMITTEE

---

**Chuck Blank**, Science Teacher  
Bell County Middle School  
Bell County  
**Laura Clifford**, Social Studies  
Resource Teacher  
Jefferson County  
**Peg Darcy**, Mathematics Teacher  
Kammerer Middle School  
Jefferson County  
**Dr. Ann Evans**, Vocational Education  
Director of Instruction  
Hancock County  
**Nan Hazel Franck**, Health Supervisor  
Jefferson County  
**Dr. Joanne Guilfoil**, Art Professor  
Eastern Kentucky University  
**Connie Hayes**, Language Arts Teacher  
Bluegrass Middle School  
Hardin County

**Dan H. Haynes**, Physical Education Teacher  
Simmons Elementary School  
Woodford County  
**Sharon Kirk**, Home Economics Teacher  
Sheldon Clark High School  
Martin County  
**Ellen Lewis**, Language Arts Specialist  
Jefferson County  
**Dr. William Meadors**, Chair  
Physical Education Department  
Western Kentucky University  
**Dr. Pat Nickell**, Social Studies Coordinator  
Fayette County  
**Dr. Diane Ris**, Professor  
Language Arts  
Morehead State University  
**Johanna Strange**, Science Teacher  
Model Lab School  
Eastern Kentucky University

**Dr. Robyn Swanson**, Music Professor  
Western Kentucky University  
**Judy Tabor**, Resource Teacher  
Jessamine County High School  
Jessamine County  
**Dr. Merita Thompson**, Health Professor  
Eastern Kentucky University  
**Susan Vaughn**, Vocational Education  
Supervisor  
Nelson County  
**Andrea Warren**, Science Teacher  
Franklin Simpson High School  
Simpson County  
**Tom Welch**, French Teacher  
Jessamine County High School  
Jessamine County  
**Chris Wilcox**, Mathematics Coordinator  
Oldham County

---

## LANGUAGE ARTS COMMITTEE

---

**Kay Vincent**, Coordinator  
Kentucky Department of Education  
**Ron Bryan**, Supervisor  
LaRue County  
**Jane Campbell**, Teacher  
Caney Creek Elementary  
Knott County  
**Joe Clark**, Curriculum Consultant  
Fayette County  
**Rosemarie Gold**, Resource Teacher  
Kentucky Writing Program  
**Carol E. Hall**, Specialist  
Jefferson County

**Connie Hayes**, Teacher  
Bluegrass Middle School  
Hardin County  
**Peggy Heasley**, Resource Teacher  
Brookside Elementary  
Jessamine County  
**Ellen Lewis**, Specialist  
Jefferson County  
**Kelly Marcum**, Teacher  
Stanton Elementary  
Powell County  
**Anita McCormick**, Teacher  
A.J. Jolly Elementary  
Campbell County

**Karen A. Miller**, Teacher  
South Oldham Middle School  
Oldham County  
**Judith E. New**, Teacher  
Twenhofel Middle School  
Kenton County  
**Bobbie Gail Pullen**, Teacher  
Hawesville Elementary  
Hancock County  
**Dr. Diane Ris**, Professor  
Morehead State University  
**Dr. Peter Winograd**, Professor  
University of Kentucky

---

## MATHEMATICS COMMITTEE

---

**Jeri Oberg**, Coordinator  
Kentucky Department of Education  
**Sheila Vice**, Coordinator  
Kentucky Department of Education  
**Joe Blandford**, Teacher  
Burns Middle School  
Daviess County  
**Mary Susan Bostick**, Teacher  
Lincoln Elementary  
Dayton Independent  
**Dr. William Bush**, Professor  
University of Kentucky  
**Rose Caldwell**, Teacher  
Paul L. Dunbar High School  
Fayette County  
**Debbie Cox**, Writing Resource Teacher  
Fleming County  
**Peg Darcy**, Teacher  
Kammerer Middle School  
Jefferson County

**Joanne Greaver**, Mathematics Specialist  
Jefferson County  
**Hugh Hatcher**, Curriculum Coordinator  
Ft. Campbell High School  
Ft. Campbell Schools  
**Amy Herman**, Teacher  
Atherton High School  
Jefferson County  
**Dr. Willis Johnson**, Professor  
Murray State University  
**Dr. Doug Jones**, Professor  
University of Kentucky  
**Dr. Karen Karp**, Professor  
Indiana University  
**Linda Mahanna**, Teacher  
Hager Elementary  
Ashland Independent  
**Dr. Ron Pelfrey**, Curriculum Consultant  
Fayette County

**Ruth Roberson**, Teacher  
Twenhofel Middle School  
Kenton County  
**Dr. Robert Ronau**, Professor  
University of Kentucky  
**Dr. Linda Jensen Sheffield**, Professor  
Northern Kentucky University  
**Elizabeth Sinor**, Resource Teacher  
Franklin County  
**Sandra K. Taylor**, Teacher  
Greenwood High School  
Warren County  
**Ophelia Watts**, Teacher  
Fairdale Elementary  
Jefferson County  
**Chris Wilcox**, Coordinator  
Oldham County

---

## PRACTICAL LIVING STUDIES COMMITTEE

---

**Agnes Durbin**, Coordinator  
Kentucky Department of Education  
**Ed Stepp**, Coordinator  
Kentucky Department of Education  
**Christine Cantrell**, Teacher  
Tolu Elementary  
Crittenden County  
**Nan Hazel Franck**, Supervisor  
Health and Physical Education  
Jefferson County  
**Dan H. Haynes**, Teacher  
Simmons Elementary School  
Woodford County  
**Susan Higdon**, Teacher  
Graves County High School  
Graves County

**Connie Kiser Hutson**, Teacher  
Bourbon Central Elementary  
Bourbon County  
**Dr. Jackie Lund**, Professor  
University of Louisville  
**Dr. Linda Olasov**, Professor  
Northern Kentucky University  
**Nancy Owen**, Teacher  
Nicholasville Elementary  
Jessamine County  
**Gracie McElya**, Teacher  
La Center Elementary  
Ballard County  
**Dr. William Meadors**, Chair  
Physical Education Department  
Western Kentucky University

**Emma Revis**, Teacher  
Taylor County Middle School  
Taylor County  
**Patricia Royalty**, Teacher  
Bate Middle School  
Danville Independent  
**Judy Swinny**, Teacher  
Crittenden High School  
Crittenden County  
**Dr. Merita Thompson**, Professor  
Eastern Kentucky University  
**Janice Walden**, Teacher  
Monroe County High School  
Monroe County

---

## PRIMARY COMMITTEE

---

**Agnes Durbin**, Coordinator  
Kentucky Department of Education  
**Louis DeLuca**, Coordinator  
Kentucky Department of Education  
**Sheila Cruse**, Consultant  
Western Kentucky University

**Martha Davis**, Principal  
Trigg Elementary School  
Trigg County  
**Ruth Ann Harrell**, Teacher  
Longfellow Elementary  
Mayfield Independent  
**Mike Howard**, Director  
Science Education Programs  
Kentucky Science and Technology Council

**Nancy Huffstutter**, Director  
Education Outreach  
Murray State University  
**Judith L. Morris**, Principal  
Hager Elementary  
Ashland Independent

---

## SCIENCE COMMITTEE

---

**Sue Darnell**, Coordinator  
Kentucky Department of Education  
**Tricia Kerr**, Coordinator  
Kentucky Department of Education  
**Dr. Ron Atwood**, Professor  
University of Kentucky  
**Chuck Blank**, Teacher  
Bell County Middle School  
Bell County  
**Nancy Daugherty**, Resource Teacher  
Jefferson County Public Schools  
**Kim Fleming**, Teacher  
Clark Elementary  
Paducah Independent  
**Patsy Gilmore**, Teacher  
Hager Elementary  
Ashland Independent

**Dr. John Guyton**, Professor  
Murray State University  
**Mike Howard**, Director  
Science Education Programs  
Kentucky Science and Technology Council  
**Tom Hunt**, Teacher/Science Coordinator  
Montgomery County High School  
Montgomery County  
**Pam Jett**, Teacher  
South Oldham Middle School  
Oldham County  
**Shirley Lauterbach**, Assistant Principal  
Oldham County Middle School  
Oldham County  
**Sandy Martz**, Teacher  
Isaac Shelby Elementary  
Jefferson County

**Susan Mueller**, Teacher  
Henderson County South J.H.S.  
Henderson County  
**Jane Sisk**, Teacher  
Calloway County High School  
Calloway County  
**Johanna Strange**, Teacher  
Model Lab School  
Eastern Kentucky University  
**Andrea Warren**, Teacher  
Franklin Simpson High School  
Simpson County  
**Stephen Woolums**, Teacher  
Henry Clay High School  
Fayette County

---

## SOCIAL STUDIES COMMITTEE

---

**Nijel Clayton**, Coordinator  
Kentucky Department of Education  
**David Green**, Coordinator  
Kentucky Department of Education  
**Chan Stephen Case**, Principal  
Wickliffe Elementary  
Ballard County  
**Dennis Chandler**, Teacher  
Highlands High School  
Fort Thomas Independent  
**Laura S. Clifford**, Resource Teacher  
Jefferson County

**Karen Eklund**, Teacher  
Julia R. Ewan Elementary  
Fayette County  
**Laura A. Gray**, Teacher  
Barbourville High School  
Barbourville Independent  
**Dr. Jerome C. Hainsworth**, Professor  
Murray State University  
**Jon D. Henson**, Teacher  
Shelby County High School  
Shelby County  
**Patricia L. Moody**, Teacher  
Jessamine County High School  
Jessamine County

**Debbie Moore**, Teacher  
Bell County Middle School  
Bell County  
**Kathleen Nichter**, Resource Teacher  
Jefferson County  
**Dr. Pat Nickell**, Coordinator  
Fayette County  
**Dr. David B. Peterson**, Professor  
Morehead State University  
**Benjamin M. Rankin**, Principal  
Center Hill Elementary  
Bourbon County  
**Linda M. Roberts**, Instructional Supervisor  
Henry County

---

## VOCATIONAL STUDIES COMMITTEE

---

**Jean Cain**, Coordinator  
Kentucky Department of Education  
**Agnes Durbin**, Coordinator  
Kentucky Department of Education  
**Nancy Button**, Retired Teacher  
Barren County High School  
Barren County  
**Janice Davie**, Teacher  
Hopkinsville High School  
Christian County  
**Sylvester Dunn**, Teacher  
Bell County High School  
Bell County  
**Dr. Ann Evans**  
Director of Instruction  
Hancock County

**Mickey Fowler**, Teacher  
Christian County High School  
Christian County  
**Sharon Kirk**, Teacher  
Sheldon Clark High School  
Martin County  
**Jane Miller**, Teacher  
Graves County High School  
Graves County  
**Charles Petty**, Teacher  
Bell County Middle School  
Bell County  
**Donna Preston**, Teacher  
Russellville High School  
Russellville Independent

**Vickie Rebholz**, Teacher  
Campbell County OVEC  
Campbell County  
**Stanley Scott**, Teacher  
Apollo High School  
Daviess County  
**Anna Stout**, Retired Teacher  
Winburn Middle School  
Fayette County  
**Dr. Charlotte Tulloch**, Professor  
University of Kentucky  
**Susan Vaughn**, Instructional Supervisor  
Nelson County  
**Alberta Watkins**, Teacher  
Camden Station Elementary  
Oldham County

---

## DEPARTMENT OF EDUCATION PERSONNEL

---

### DIVISION OF SPECIAL LEARNING NEEDS

Jan Arnow, Manager  
Nancy LaCount, Manager  
Laura McCullough  
Anne Moll  
Leanne Olson  
Nancy Sander

### OFFICE OF ASSESSMENT AND ACCOUNTABILITY

Jeff Adkins  
Nancy Kelly  
JoAnn Mosier  
Dr. Dan Ochs  
Julia Wilson

### DIVISION OF EARLY CHILDHOOD

Dr. Abbie Robinson-Armstrong, Director  
Marlene McCullough, Manager  
Joanne Burke  
Merry Denny  
Gordon Forsma

---

Special appreciation is expressed to April Rooks DeLuca, to local district technology coordinators, to curriculum alliance members, and to local district personnel who responded to the plans for this document.

Sincere thanks to Robin Fogarty for her writing of the *Reflections*, her support, and her advice.

### REGIONAL SERVICE CENTERS CURRICULUM/ASSESSMENT CONSULTANTS

Cheryl Chedester  
Patricia Hardin  
Patricia Murphy  
Susan Nichols  
Jane Sisk  
Carol Stumbo  
Mary Alice Vincent

### DIVISION OF INSTRUCTIONAL TECHNOLOGY

Lydia Wells Sledge, Director  
Judy Cooper  
Kay Cox  
Keith Davis  
Christine McIntosh

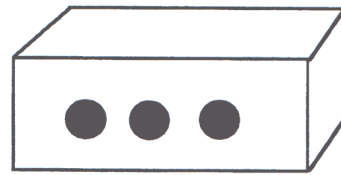


# Volume I

## Introduction

---

*"Please, sir, draw me a sheep." With these simple words the Little Prince initiates his relationship with the aviator in St. Exupéry's The Little Prince. The Little Prince's incessant demand of the pilot to draw a sheep is finally met with some feeble attempts. One sheep is too old, another too sick, and another won't do because it is a ram. Finally, in desperation the pilot hands the Little Prince a sketch of a box with three holes drawn in the side. "Here," he says, "the sheep that you want is inside." The Little Prince's face lights up, and he says that is exactly the sheep he needs.*



---

**T**he sheep, drawn by the aviator, required the Little Prince to use imagination and creativity to see his vision. So, too, *Transformations: Kentucky's Curriculum Framework* is a "sheep" that can be fully seen and realized only through the vision and leadership of the local school district, school personnel, and school councils. The main function of the framework is to help districts and schools design the curriculum they envision for their students.

The framework is designed for all students. While the student expectations are constant, the delivery mechanisms such as instructional strategies, resources, and amount of time will vary according to individual student needs.

### Purpose

**T***ransformations: Kentucky's Curriculum Framework* is the response to the KRS 158.6451(4) which addresses the requirements of the curriculum framework. It "...shall provide direction to local districts and schools as they develop curriculum." A district's or school's curriculum should reflect local conditions, needs, and beliefs. It is not mandatory that this curriculum framework be used; however, it does offer assistance as local curricula are designed to meet the state's six learning goals and academic expectations. The document itself has undergone a transformation since its inception and will continue to change as KERA progresses.

### What is curriculum?

**T**he real curriculum is the one experienced by the student. It is, therefore, imperative that a written curriculum be a coherent, organized set of instructional opportunities which focuses on student learning. It must provide rich, engaging experiences [connected to real-life situations](#).

## What is a curriculum framework?

A framework presents parameters to assist in the development of curriculum. It is not a curriculum guide nor is it designed to be used as a tool for the delivery of instruction. It can serve as a major resource for the creation of districts' and schools' curricula, instruction, and performance assessments and for professional development.

## Kentucky's Curriculum Framework

More than 100 teachers, counselors, administrators, regional service center consultants, and university personnel were significantly involved in the development of this framework. It is truly Kentucky's curriculum framework.

### **This document is designed to**

- provide direction to local teams of teachers, administrators, media/library specialists, students, parents, and community representatives as they develop curriculum unique to their districts and schools.
- effect change by establishing capacity in districts and schools.
- provide support as districts and schools plan and initiate activities that undergird the transformation process.

The curriculum framework is made up of two volumes which complement each other in the development of local curricula.

**Volume I** contains the goals, academic expectations, and their expansions. Each academic expectation has one or more accompanying pages that include the following:

- **Demonstrators** are further definitions of the academic expectations which indicate student progress toward the outcome. Local curriculum writers may choose to delete, add to, or use these demonstrators in their entirety. Although the demonstrators are identified as appropriate for elementary, middle, and high school levels, they are not grade level specific. The demonstrators should be read from the bottom to the top of each column, but are not to be considered linear and need not be demonstrated sequentially. This structure was designed to reflect the student's growth toward the academic expectations throughout the educational experience.

- **Learning Links** are ideas for making connections to real-life situations and other content areas.
- **Related Concepts** are samples of topics and processes within the content areas; they are found only in Goal 2.

**T**he following components of the Kentucky Education Reform Act (KERA) ensure for each child equal educational opportunities that focus on preparing the whole child for life. These components of KERA stress the connections to the learning experiences of students.

- **Preschool programs** support at-risk students by providing a curriculum to prepare them for success in primary school.
- **Primary School programs** provide children with non-competitive classrooms using developmentally appropriate practices.
- **Kentucky's assessment program (KIRIS)** reflects real-life learning experiences and holds districts/schools accountable for student learning.
- **Professional development** of administrators and teachers is central to transforming the learning environment and is critical to the success of KERA.
- **Regional Service Centers** are local, instructional resources for school districts and schools.
- **School-based councils** composed of teachers, parents, and administrators share decision-making on issues affecting curriculum, instruction, and assessment.
- **Expanded technology (KETS)** supports curriculum, assessment, and professional development; enhances communication; and facilitates administrative support services.
- **Extended School Services** programs offer expanded learning opportunities for students.
- **Family Resource and Youth Service Centers** support curriculum and instruction by addressing students' needs for physical and emotional wellness.

**T***ransformations:* *Kentucky's Curriculum Framework* is an evolving document. It will continue to be developed and refined as the implementation of KERA changes the way instruction is implemented and evaluated. To touch all children and facilitate effective instruction, open it, use it, and begin to transform the learning environment.

- **Teaching/Assessment Strategies** are samples of techniques that might be used to transform classroom instructional/assessment practices.
- **Ideas for Incorporating Community Resources** suggest resources available throughout Kentucky to extend the classroom beyond the school building.
- **Activities** are suggestions which involve students in engaging instructional/assessment experiences. They are coordinated with the demonstrators and state assessments. In Goal 2, there are activities which show how the core concepts can be applied across the curriculum. Also, the "Variations on a Theme" show how a single theme may be woven through the content areas.
- **Reflections** explain why the academic expectation is important for the students to achieve.

**Volume II** centers on the main processes which local districts and schools will use to develop curriculum and instruction that meet their needs. It includes models, samples, examples, and guides to enable school-based councils, teams of teachers, and other curriculum writers to turn their own vision into reality. Volume II contains the following sections:

- **Transforming the Learning Environment** suggests ways in which the learning environment might be changed to foster sustained learning for all students and provides resources which address this aspect of curriculum development and instructional design.
- **Alternative Uses of School Time** provides ideas and examples of changed school schedules and calendars. The ideas are based upon the premise that a school's schedule should be established around curricular needs, rather than around a calendar or clock.
- **Local Curriculum Development Guide** suggests steps to follow as curriculum developers work through the processes of designing curriculum and instruction.
- **Bringing It All Together** helps to answer the teachers' questions, "What do I do now?" It presents one teacher's response to the demands for changing classroom practices, such as implementing standards-based instruction, developing culminating performances, and designing scoring rubrics.
- **Resources** identify teaching/assessment strategies, instructional and community resources, model-teaching sites, and key readings that will prove useful.

## **KERA Strands Support Transformation**

**A**s local curriculum committees and teams begin to develop curriculum, it is important that a holistic approach to instruction be used. Social, emotional, aesthetic, physical, and intellectual needs of students must be addressed in order to provide the optimum environment for learning.



# Kentucky's Learning Goals And Academic Expectations

**T**he centerpiece of Kentucky's education reform effort is its vision of what students should know and be able to do as a result of their school experience. Every aspect of the reform movement is designed to promote student attainment of these goals and to measure our progress in helping them to do so.

## Assumption underlying KERA

*All students are capable of learning.*

The expectations for students are set forth as the six learning goals of KERA. These goals led to the development of the academic expectations that characterize student achievement of the goals. *All* Kentucky students are expected to achieve the goals and academic expectations.

### **1. Students are able to use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives.**

- 1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
- 1.2 Students make sense of the variety of materials they read.
- 1.3 Students make sense of the various things they observe.
- 1.4 Students make sense of the various messages to which they listen.
- 1.5-
- 1.9 Students use mathematical ideas and procedures to communicate, reason, and solve problems.
- 1.10 Students organize information through development and use of classification rules and systems.
- 1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
- 1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

- 1.13 Students make sense of ideas and communicate ideas with the visual arts.
- 1.14 Students make sense of ideas and communicate ideas with music.
- 1.15 Students make sense of and communicate ideas with movement.
- 1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

## **2. Students shall develop their abilities to apply core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, practical living studies, and vocational studies to what they will encounter throughout their lives.**

### **Science**

- 2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.
- 2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.
- 2.3 Students identify and analyze systems and the ways their components work together or affect each other.
- 2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.
- 2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.
- 2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

### **Mathematics**

- 2.7 Students understand number concepts and use numbers appropriately and accurately.
- 2.8 Students understand various mathematical procedures and use them appropriately and accurately.
- 2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.
- 2.10 Students understand measurement concepts and use measurements appropriately and accurately.
- 2.11 Students understand mathematical change concepts and use them appropriately and accurately.
- 2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.
- 2.13 Students understand and appropriately use statistics and probability.

## **Social Studies**

- 2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.
- 2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.
- 2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.
- 2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
- 2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.
- 2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.
- 2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.
- 2.21 (Incorporated into 2.16)

## **Arts and Humanities**

- 2.22 Students create works of art and make presentations to convey a point of view.
- 2.23 Students analyze their own and others' artistic products and performances using accepted standards.
- 2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.
- 2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
- 2.26 Through the arts and humanities, student recognize that although people are different, they share some common experiences and attitudes.
- 2.27 Students recognize and understand the similarities and differences among languages.
- 2.28 Students understand and communicate in a second language.

## **Practical Living**

- 2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.
- 2.30 Students evaluate consumer products and services and make effective consumer decisions.
- 2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
- 2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.

- 2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
- 2.34 Students perform physical movement skills effectively in a variety of settings.
- 2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.

### **Vocational Studies**

- 2.36 Students use strategies for choosing and preparing for a career.
- 2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
- 2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

- 3. Students shall develop their abilities to become self-sufficient individuals.\***
- 4. Students shall develop their abilities to become responsible members of a family, work group, or community, including demonstrating effectiveness in community service.\***
- 5. Students shall develop their abilities to think and solve problems in school situations and in a variety of situations they will encounter in life.**
  - 5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
  - 5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
  - 5.3 Students organize information to develop or change their understanding of a concept.
  - 5.4 Students use a decision-making process to make informed decisions among options.
  - 5.5 Students use problem-solving processes to develop solutions to relatively complex problems.

**\*Goals 3 and 4 are included in Kentucky statute as learning goals, but they are not included in the state's academic assessment program.**



**6. Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources.**

- 6.1 Students connect knowledge and experiences from different subject areas.
- 6.2 Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
- 6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

# Format Explanation

The academic expectations were adopted by the State Board for Elementary and Secondary Education; they indicate what students are expected to demonstrate

The demonstrators further define the academic expectations and provide benchmarks to indicate student progress toward the academic expectations. Demonstrators written at the bottom of each section are less complex than those at the top; however, all levels of Bloom's Taxonomy may be demonstrated by students of any age.

The learning goals change the schools' curricula to focus on academic expectations.

## Goal 2: Apply Core Concepts and Principles

### Academic Expectation

2.28: Students understand and communicate in a second language.

**Learning Links:** Fluency / Translation / United Nations / Dialect / Diplomacy / Multinationals / Slang / Derivation / Movies / Interdependence / Travel / Trade / Machine Translation

**Related Concepts:** Listening / Speaking / Writing / Reading / Culture

The learning links suggest real-life applications and connections across other content areas.

Elementary Demonstrators	Middle School Demonstrators	High School Demonstrators
<ul style="list-style-type: none"> <li>Communicate basic ideas in a second language.</li> <li>Respond to a discourse on a specific topic when listening to a second language.</li> <li>Recognize basic ideas from text written in a second language.</li> <li>Practice writing simple messages using a second language.</li> <li>Listen to and imitate a variety of languages.</li> <li>Identify some important people, holidays, and geographic areas.</li> </ul>	<ul style="list-style-type: none"> <li>Communicate opinions on a specific topic in a second language.</li> <li>Listen to and interpret the main ideas of a discourse in a second language.</li> <li>Communicate simple ideas in writing in a second language.</li> <li>Read and interpret brief passages written in a second language.</li> <li>Identify some important dates, events, and people, and discuss their significance.</li> </ul>	<ul style="list-style-type: none"> <li>Communicate complex ideas in real-life situations in a second language.</li> <li>Analyze and respond to topics in an extended discourse offered by speakers using native-like discourse strategies in a second language.</li> <li>Communicate complex ideas in writing in a second language.</li> <li>Analyze written text and make appropriate inferences in a second language.</li> <li>Handle routine social situations.</li> <li>Discuss the significance of the geography, history, and political contributions of the target culture.</li> </ul>

Demonstrators should be read from bottom to top, but need not be demonstrated sequentially.



### Sample Teaching/Assessment Strategies:

Collaborative Process: Cooperative Learning • Continuous Progress Assessment: Checklist, Portfolio Development, Self-assessment • Graphic Organizers: Graphic Representations • Problem Solving: Interviews, Debates, Creative Problem Solving, Formulating Models, Role-play, Simulation • Technology/Tools: Distance Learning, Interactive Video, Computers, Multimedia, Puppets, Video • Whole Language Approach • Writing Process

These sample strategies offer ideas and are not meant to limit teacher resourcefulness. More strategies are found in the resource section.

### Ideas for Incorporating Community Resources:

- Access public and private library collections of foreign language film, video, and print material.
- Interview local foreign language speakers, including teachers and students, Peace Corp volunteers, missionaries, and migrant workers.
- Identify and visit local businesses (e.g., import stores, travel agencies, and restaurants) that have foreign clients.
- Find sources for foreign videos, cookbooks, and objects such as money, advertisements, and brochures.

The teaching/assessment strategies suggest instructional approaches and can be used across disciplines.

Ideas are provided on how to use community resources to enhance instruction.

The related concepts (in Goal 2) are topics and processes that might be included in the instructional unit.

# Format Explanation

The academic expectation statement is presented in an abbreviated form to communicate its main idea.

The suggested activities that further clarify the academic expectation and demonstrators.

The activities for Goals 1, 3-6 are designed to be integrated throughout each discipline.

The activities illustrate the types of performance events (PE), open-ended (OE), and portfolio (P) assessment tasks that may reflect ongoing, classroom assessment.

## Core Concept: Accessing Sources

### Sample Elementary Activities

- Watch a news broadcast on television and retell it for a student audience. P
- Create and video broadcast your own news program. PE
- Interview diverse people from the community about job responsibilities. Create a database about careers. PE, P
- Telephone three different grocery stores to compare prices of the same products. Create a spreadsheet and a graph of the results. P
- Conduct a CD-ROM search on bears and compile a resource list of "bear facts." P

### Sample Middle School Activities

- Establish and use criteria to evaluate a variety of print and non-print materials based on how well they provide the information needed. PE, P
- Examine diverse problems that have statewide implications. Identify and evaluate possible solutions from various sources of information. P
- Interview a city official on regulations surrounding garbage disposal. Prepare a multimedia presentation. PE
- Investigate the reason behind a school rule. Interview the principal, teachers, staff, and students on their opinions of the rule. Organize the information using a database. Videotape a debate of the issue. PE, OE, P

### Sample High School Activities

- Use telecommunications to gather information about tuition rates at various colleges, universities, business and technical schools. Compile, using a spreadsheet. PE, P
- Create a database of student support services available in the community. PE, P
- Investigate variables of car insurance rates for students. Analyze, compile, and report findings. PE, P
- Compile information on Kentucky's endangered species. Design and implement a campaign to rescue one of the species. PE, OE, P

### Reflections

*In a high-tech society, life-long learning is a must if students are to keep pace with the rapid rate of change in their world. To be skillful learners throughout their lives, students must not only be adept at accessing the myriad resources available to them, but also be able to create their own new information. They must become comfortable with both print and non-print sources of data, with electronic communications, and with the more traditional interpersonal skills. These interpersonal skills include conducting interviews, gathering bibliographic sources, conducting systematic searches for data and information, and judging which information is useful and appropriate. Only with repeated practice at researching problems do students gain confidence and skill in accessing the sources they need.*

*The sample activities suggest a few possibilities for accessing sources. The purpose of this academic expectation is to design student activities that require authentic student research and to structure frequent and varied opportunities for exploring, investigating, gathering, and judging which information is useful and appropriate.*

*Sources: Meibitz—Megatracks  
Fogarty & Heade—Future World: Future School*

## Core Concept: Second Language Proficiency

### Sample Elementary Activities

- Draw and put foreign language labels on the floor plan of your house or apartment. Include one sentence about each room. PE, P
- Play "Follow the leader" giving all commands in the target language. Use different formats (e.g., game, song) to do this. PE
- Read known stories (e.g., "The Little Red Hen") aloud in the target language. PE
- Correspond with a pen pal in a foreign country where the target language is spoken. Write letters in your own language and read letters in the target language. PE, OE, P
- Sing songs in the target language. PE
- Interview a person who speaks the target language. PE, OE
- Learn a song in American Sign Language and perform the song for an audience. PE

### Applications Across the Curriculum

#### Variations on a theme: Songs or Stories

##### Language Arts

- Listen to a variety of songs in the target language. PE, OE

##### Science

- Select a number of songs with the same theme in the target language. PE, OE, P

##### Mathematics

- Compare the rhythm to the beat of the selected songs in the target language. PE, P

##### Social Studies

- Make costumes representing the country or countries where the songs of the target language are sung. Wear the costume during the performance. PE, OE

##### Practical Living

- Using the target language, perform a selection of songs alone, and with a group. PE

##### Vocational Education

- Create an invitation and program of the songs in the target language for a performance. PE

### Reflections

*There is an unfortunate joke often heard abroad. "What do you call someone who speaks three languages? Trilingual! What do you call someone who speaks two languages? Bilingual! What do you call someone who speaks one language? American!" It is sad, but true, that students around the globe are required to be well-versed in several languages, while all too frequently students in America's schools are fluent in only one—English.*

*To target understanding and communicating in a second language as an academic expectation signals a call for change; change from the study of foreign language as an honors elective, to the need for proficiency in a second language as a required element in the education of every student.*

*The world is a community. As members of a leading society in the Western world, it is only prudent that all students develop the ability to communicate in a second language.*

*With competence and proficiency in a second language, every student is more fully prepared to be a citizen of the global village. Learning another language is not merely an enhancement to a well-rounded education. Rather, it is a prerequisite for every student as they begin to better understand the world around them.*

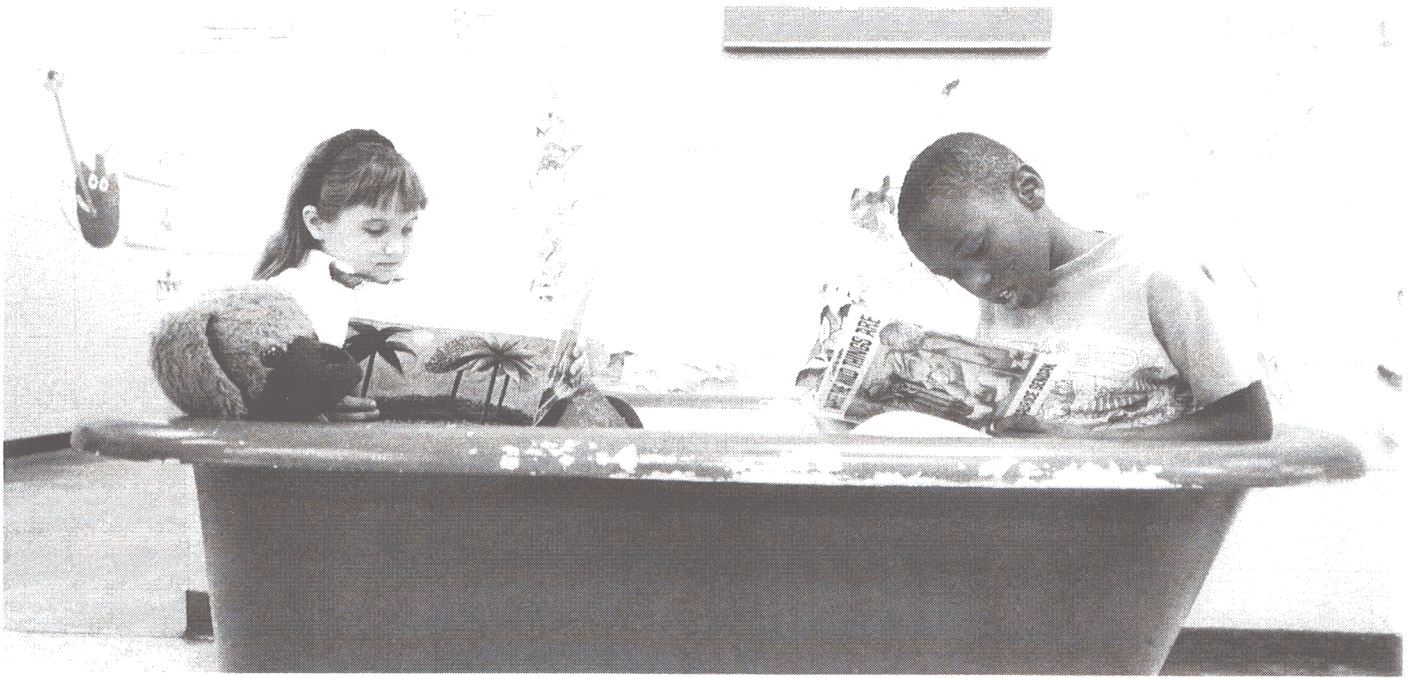
Goal 2 activities focus on content area. However, many of the concepts can and should be taught across disciplines (e.g., career path, employability attributes, and post-secondary opportunities search should be integrated in content areas other than vocational).

These suggested activities can be used in other disciplines.

Reflections provide insights about why academic expectations are important for students.

# Notes





*Students at Collins Lane Elementary in Franklin County enjoy reading. Photo by Rick McComb.*